

U.S. Patent Application No. 10/767,248
Attorney Docket No. 351913-992820 (2102397)

REMARKS

Applicants thank Examiner for allowing claims 14-18.

Claims 3-4, 7, 13, and 21-22 have been rewritten to include the limitations of their base claims and any intervening claims, and are thus believed to now be in patentable form. Claim 23 depends from now-rewritten claim 22, and is thus also believed to now be in patentable form.

The Rejections under 35 U.S.C. § 102(b)

Claims 1-2, and 24

Claims 1-2 and 24 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,982,230 to *MacBeth* ("*MacBeth*"). Applicant respectfully traverses, noting that *MacBeth* does not disclose all elements of claims 1, 2, or 24. More specifically, *MacBeth* does not disclose the formation of an adaptive input range.

MacBeth discloses an amplifier circuit with two differential amplifiers 60, 70 and inputs 81-84 (e.g., FIG. 1 and accompanying text). Amplifiers 60, 70 can be connected to different ones of the inputs 81-84 (*Id.*). However, it can be seen that the amplifiers 60, 70 cannot be interconnected in any other ways besides those shown. For instance, neither amplifier 60, 70 can be disconnected. Accordingly, the input range of the system of *MacBeth* is static: it depends only on the input ranges of the two amplifiers 60, 70, which do not vary. As such, claims 1 and 24 are patentable over *MacBeth* for at least the reason that they recite a system having an "adaptive input range" Claim 2 depends from claim 1, and is thus also patentable for at least this same reason.

Claims 9-12, and 19

Claims 9-12 and 19 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,256,987 to *Kibayashi et al.* ("*Kibayashi*"). Applicant respectfully traverses, noting that *Kibayashi* does not disclose all elements of claims 9-12 or 19. More specifically, *Kibayashi* does not disclose an operational amplifier having a switchable current bias.

Kibayashi discloses a power amplifier device having power amplifier units 15_x (e.g., FIGS. 2, 5). As noted by Examiner, these amplifier units 15_x provide a voltage bias (Office

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Action, page 3; Col. 6:19-35), not a current bias. Accordingly, claims 9-11 as amended are patentable over *Kibayashi* for at least the reason that they recite an operational amplifier having a switchable current bias. Claim 12 depends from claim 11, and is thus patentable for at least this same reason.

Like *MacBeth*, the system of *Kibayashi* also discloses only a single topology for connecting power amplifier units 15_x. Namely, they are only connected in parallel, and individual amplifier units 15_x cannot be disconnected, chained together, or the like. Accordingly, the system of *Kibayashi* has an input range that is static, and set by the input ranges of its individual power amplifier units 15_x. Claim 19 as amended is thus patentable over *Kibayashi* for at least the reason that it recites operational amplifiers forming an adaptive input range.

The Rejections under 35 U.S.C. § 102(b)

Claims 5-6, and 8

Claims 5-6 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *MacBeth* in view of U.S. Patent No. 5,631,606 to *Tran* ("*Tran*"). Applicant respectfully traverses, noting that neither *MacBeth* nor *Tran* discloses every element of these claims. More specifically, neither reference discloses operational amplifiers forming an adaptive input range.

As above, *MacBeth* discloses a circuit whose input range does not vary – the input ranges of the amplifiers 60, 70 themselves do not vary, and neither amplifier 60, 70 is disclosed as being disconnectable, or otherwise varying its contribution to the input range of the circuit as a whole. Similarly, *Tran* discloses a single-amplifier system, and as such cannot disclose multiple operational amplifiers, or their interconnection so as to form an adaptive input range.

Claim 20

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kibayashi* in view of U.S. Patent No. 5,604,464 to *Hwang et al.* ("*Hwang*"). Applicant respectfully traverses, noting that neither *Kibayashi* nor *Hwang* discloses every element of these claims. More specifically, neither reference discloses the formation of an adaptive input range.

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As above, *Kibayashi* discloses a power amplifier device having power amplifier units 15_x (e.g., FIGS. 2, 5 and accompanying text). However, *Kibayashi* only discloses that these power amplifier units 15_x are connected in parallel (Id.). It does not disclose any other connections between power amplifier units 15_x and specifically does not disclose that these power amplifier units 15_x can be adaptively interconnected. As such, *Kibayashi* cannot disclose the adaptive interconnection of amplifiers to form an adaptive input range.

Hwang discloses a single operational amplifier with multiple input stages (e.g., FIG. 3 and accompanying text). Accordingly, *Hwang* does not disclose multiple amplifiers, and cannot disclose the adaptive interconnection of multiple amplifiers to form an adaptive input range.

Thus, neither *Kibayashi* nor *Hwang* discloses the adaptive interconnection of multiple amplifiers to form an adaptive input range. Accordingly, claim 20 is patentable over both *Kibayashi* and *Hwang* for at least the reason that it discloses "a controller configured to adaptively interconnect the first, second, and third operational amplifiers to form an adaptive input range of said system" (from amended claim 19).

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CONCLUSION

In view of the above, it is respectfully submitted that Claims 1-24 are now in condition for allowance.

The Examiner is invited to call Applicant's attorney at the number below in order to speed the prosecution of this application.

The Commissioner is authorized to charge any deficiencies in fees and credit any overpayment of fees to Deposit Account No. 07-1896.

Respectfully submitted,

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